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1 19. LAND PRESERVATION, BUY-BACK AND FLOODPROOFING - [LOW]

These techniques allow the river to continue functioning. Don't describe the "how to do it," just mention the opportunity. They may also be used in conjunction with something like floodplain reconnection as an overall restoration effort. We've considered adding other floodplain actions. We need to draw the line to keep this manageable. Include actions that individuals can undertake as mitigation. That would not include habitat protection by land-use planning.

1.1 Introduction

1.1.1 Description of Technique

Channels function best if given room to move
Various options for allowing channel process within a designated corridor
This is a mitigation technique but could be combined with others as restoration
Including:

- Land preservation: conservation easements, restricted development in river corridor
- Buy-back: public purchase of river corridor lands, removal of floodprone structures
- Floodproofing: protecting structures from flood damage rather than harnessing river

1.1.2 Physical and Biological Effects

Physical (geomorphic) and ecological benefits of providing space for river and its floodplain are numerous

- Floodplain function
- Dynamic system – disturbance at natural rate is good
- Complex and variable habitat

1.1.3 Application of Technique

- Applied to alluvial channels with floodplains
- Identify opportunities
  - Identify criteria for priority sites - habitat "at risk" sites based on geomorph parameters
  - Identify in flood hazard management plans
  - Applied where limited development has left some opportunity for managing river as a corridor

1.2 Scale

This approach must be applied at a reach scale, though sometimes must start at a more local level to get to the reach effect.

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Discuss the watershed or drainage scale as a primary focus in Washington, even though the land acquisition, easement, or other "treatment" will generally occur at the reach or more localized level.

1.3 Risk and Uncertainty

Risk to property is greatly reduced.
Uncertainty in success is greatly reduced if river is more free to function naturally.
Habitat may still be at risk of input conditions (sediment, hydrology) are out of control

1.4 Data Collection and Assessment

Data collection:
Need to start with discussion of watershed assessment.

- Property ownership
- Topography
- Historic channel pattern
- Flood delineation

1.5 Methods and Design

Not applicable
Include reference to source of information about conservation easements – does WDFW know of a good reference for this?

1.6 Project Implementation

1.6.1 Permitting

No permitting.

1.6.2 Construction

No construction, except perhaps for floodproofing.

1.6.3 Cost Estimation

Cost is limited to property acquisition, property management, and floodproofing

1.6.4 Monitoring and Tracking

- Field mapping of extent of flood.
- Monitoring path of river and evaluation of risk to infrastructure/property when it migrates.

1.6.5 Contracting Considerations

Not applicable

1.7 Operations and Maintenance

Property management.

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1.8 Examples

Does WDFW have anything in mind here?
Use Inter-Fluve's Nooksack River Meander Corridor Delineation Study for this.
Also use similar study done for the lower Walla Walla, and City of Sumner Shoreline resource Inventory Floodproofing in the Skokomish Valley – Doug contact Dan Sokol, Ecology

1.9 References

References cited in this technique so it is a stand-alone pullout.

1.10 Photo and Drawing File Names

List filenames and file locations of any photos and drawing files associated with this technique